



RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

RULE 37 CASE NO. 0265718

APPLICATION OF XTO ENERGY, INC., FOR A RULE 37 EXCEPTION FOR THE CARTER SE UNIT, WELL NO. B 2H, NEWARK, EAST (BARNETT SHALE) FIELD, TARRANT COUNTY, TEXAS

APPEARANCES:

FOR APPLICANT:

David Gross
Rick Johnston
Tim Welch
Richard Simpson

APPLICANT:

XTO Energy, Inc.

FOR PROTESTANT:

Jamie Biedenbarn
Jamie B. Widener

PROTESTANT:

Jamie Johnston Biedenbarn 1990 Trust

PROPOSAL FOR DECISION

PROCEDURAL HISTORY

DATE APPLICATION FILED:

May 5, 2010

DATE OF NOTICE OF HEARING:

May 20, 2010

DATE OF HEARING:

August 11, 2010

HEARD BY:

James M. Doherty, Hearings Examiner

Andres J. Trevino, Technical Examiner

DATE TRANSCRIPT RECEIVED:

August 27, 2010

DATE PFD CIRCULATED:

October 6, 2010

STATEMENT OF THE CASE

XTO Energy, Inc. ("XTO") seeks an amended drilling permit pursuant to the provisions of Statewide Rule 37 for the as-drilled location of the Carter SE Unit, Well No. B 2H, a horizontal well in the Newark, East (Barnett Shale) Field, Tarrant County, Texas. XTO received an original drilling permit on November 3, 2009, to drill Well No. B 2H at a Rule 37 location on the 139.03 acre pooled unit. This permit was restricted by a no perforation zone and was approved administratively

pursuant to Rule 37(h)(2)(A). Well No. B 2H was spudded in December 2009, and drilling of the well was completed on January 1, 2010. The well has not yet been completed with perforations and has not produced.

On February 25, 2010, XTO received a first amended drilling permit for the as-drilled location of Well No. B 2H, subject to the same no perforation zone restriction as contained in the original permit. Appendix 1 to this proposal for decision is a copy of a plat which shows the as-drilled wellbore path of Well No. B 2H, the no perforation zone, and the location of two pre-existing horizontal wells on the same pooled unit, Well No. B 3H and Well No. B 14H. Also shown are the locations of two tracts internal to the pooled unit identified by cross-hatching that have partial unleased interests.

The present application seeks a second amended drilling permit for the as-drilled location of Well No. B 2H on the 139.03 acre Carter SE Unit. The purpose of this application is to eliminate the no perforation zone restriction contained in the first amended permit. Appendix 2 to this proposal for decision is a copy of the plat associated with the present application, showing that XTO proposes to perforate the well in the section of the well from the proposed upper perforation ("B 2H UP") to the proposed lower perforation ("B 2H LP"). The surface location of Well No. B 2H is off lease, 2,322 feet from the south line and 1,217 feet from the west line of the Pace, D C Survey, A-1245, Tarrant County, Texas. The penetration point location is 377 feet from the north line and 737 feet from the west line of the Carter SE Unit. The terminus location is 396 feet from the south line and 1,135 feet from the west line of the Carter SE Unit and 387 feet from the south line and 1,221 feet from the east line of the Freeman, T Survey, A-546, Tarrant County, Texas. Because the well actually traverses one of the tracts in the unit that has a partial unleased interest, the Form W-1 shows that the well is one foot from the nearest lease line.¹

The application is protested by the Jamie Johnston Biedenharn 1990 Trust, which is the owner of a 50% undivided mineral interest in Tract No. 121 internal to the Carter SE Unit. Protestant's tract is 87 feet from the section of Well No. B 2H now proposed to be perforated by XTO. XTO is the lessee of the other 50% undivided mineral interest in Tract No. 121.

DISCUSSION OF THE EVIDENCE

XTO Energy, Inc.

The Carter SE Unit is located at the south end of Eagle Mountain Lake in Tarrant County. The surface and mineral estate of about 1,200 acres in this area was at one time owned by the Amon Carter Foundation. In the early 1970's, the Foundation began to sell off the surface and part of the minerals to various developers, but retained a 50% mineral interest in the acreage. XTO has leased

¹ XTO is permitted to drill under this tract because it is the lessee of a 50% undivided mineral interest in the tract. The unleased owner of the other 50% mineral interest in this tract did not protest the application.

the 50% mineral interest retained by the Foundation, which includes all the acreage in the Carter SE Unit. When the acreage was subdivided by developers for residential development, and individual residential lots were sold, the developers in some cases conveyed their mineral interest to the residential lot owners along with the surface, and in other cases conveyed only the surface to the residential lot owners and reserved the 50% mineral interest. All of this reserved interest subsequently came under the ownership of Gary Baker, who also leased the interest to XTO. XTO also leased the mineral interest that was conveyed to the residential lot owners within the boundary of the Carter SE Unit, except for two residential lots which are Tract Nos. 33 and 121 where the residential lot owners retain a 50% undivided mineral interest that is unleased and XTO has under lease the other 50% undivided mineral interest. XTO offered to lease the 50% mineral interest retained by the owners of Tract Nos. 33 and 121 but was unsuccessful. XTO is still willing to lease the interest of the Jamie Johnston Biedenharn 1990 Trust in Tract No. 121, if the Trust will agree.

The surface of the acreage included in the Carter SE Unit is heavily developed with residential structures. Wells on the Unit are drilled from an off-lease pad site (XTO's "B" pad) which is the surface location for wells drilled on the Carter SE Unit, the Carter NE Unit, and the Carter "A" Lease. XTO's "B" pad is located to the northwest of the Carter SE Unit. The XTO "B" pad is the only surface location available to XTO for wells drilled on the Carter SE Unit. XTO is not able to drill a vertical well from a surface location on the acreage included in the Unit because of surface constraints and a prohibition in its lease taken from Gary Baker.

Well No. B 2H is the third horizontal well drilled on the Carter SE Unit in the Newark, East (Barnett Shale) Field. The first well to be drilled on this Unit was Well No. B 3H which was completed on February 2, 2009. The second well drilled on the Unit was Well No. B 14H which was completed on May 9, 2009. Well No. B 2H has been drilled between Well No. B 3H and Well No. B 14H. The relative locations of these three wells are shown on Appendix 1 to this proposal for decision.

Tract No. 121 in the Carter SE Unit is the lot owned by the Jamie Johnston Biedenharn 1990 Trust. Tract No. 121 has 0.16 gross acres, and because the Trust owns only a 50% undivided mineral interest, it has 0.0835 net mineral acres. Because XTO has leased the other 50% undivided mineral interest in Tract No. 121, this tract is included in the Carter SE Unit, and the Trust occupies the position of an unleased owner of a partial undivided interest in a non-drill site tract in the Unit.

A geologist employed by XTO presented a structure map and isopach of the Barnett Shale in the area of the Carter SE Unit, two cross sections of well logs, one southwest to northeast and the other northwest to southeast, and a type log for the Carter "B" Well No. 1H pilot well. The formation dips gently to the east and has a thickness of about 300-350 feet in the area of the Carter SE Unit. From the structure map and cross sections, XTO's geologist concluded that the Barnett Shale is present and productive under the entirety of the Carter SE Unit.

A consulting petroleum engineer retained by XTO studied the production history of 338 Barnett Shale gas wells located within a five mile radius of the terminus of the Carter SE Unit, Well No. B 2H. The drainhole length of these wells was calculated from data on Forms G-1 (Gas Well Back Pressure Test, Completion or Recompletion Report, and Log) for the wells, and estimated ultimate recoveries for the wells were calculated by decline curve. Of the 338 Barnett Shale gas wells within five miles, 115 are vertical wells. Most of these vertical wells are older wells drilled in the northern portion of the five mile radius, and there are no vertical wells in the immediate area of the Carter SE Unit. Fifty-eight of the study wells have four years or more of production, and, according to XTO's engineer, it is this class of wells that provides the highest confidence level in the calculated estimated ultimate recoveries.

From the data developed in the study of all Barnett Shale gas wells within the five mile radius, a plot of estimated ultimate recovery versus drainhole length was generated, and a computer generated least squares regression of the data points on the plot developed a line through the data points with a positive slope of 0.6049 and an intercept of 1218.7. The implication of this plot is that a vertical well would have an estimated ultimate recovery of about 1.2 BCF of gas and as the drainhole length of a horizontal well increases, the well's estimated ultimate recovery also increases. According to this study, every foot of horizontal drainhole ultimately will recover about 604 MCF.

A similar plot of estimated ultimate recovery versus drainhole length was generated using data from only those Barnett Shale gas wells within the five mile radius that have four or more years of production history. According to XTO's engineer, the production history for these wells provides for a higher confidence level in estimated ultimate recoveries. Computer generated least squares regression of the more limited number of data points on this plot developed a line through the data points with a positive slope of 0.9907 and an intercept of 1559.3. This plot implies that a vertical well in this area ultimately will recover about 1.55 BCF of gas and every foot of horizontal drainhole ultimately will recover about 990 MCF.

The length of the no perforation zone contained in the first amended drilling permit for the Carter SE Unit, Well No. B 2H is 730 feet. Based on the regional recovery of 604 MCF per foot of horizontal drainhole developed from the plot of estimated ultimate recovery versus drainhole length using all Barnett Shale gas wells within a five mile radius, eliminating the no perforation zone from the drilling permit for Well No. B 2H would enable the well to recover an additional 441 MMCF, or about 0.4 BCF, of gas, as compared to what the well would recover if restricted by the no perforation zone. Based on the regional recovery of 990 MCF per foot of horizontal drainhole developed from the plot of estimated ultimate recovery versus drainhole length using just those Barnett Shale gas well within the five mile radius which have four or more years of production history, eliminating the no perforation zone from the drilling permit for Well No. B 2H would enable the well to recover an additional 723 MMCF, or about 0.7 BCF. XTO's engineer concluded that unless the no perforation zone is eliminated from the drilling permit for Well No. B 2H, 0.4 BCF to 0.7 BCF of gas will go unrecovered.

XTO's engineer also presented an estimate of gas in place and current recoverable gas in the Newark, East (Barnett Shale) Field beneath the Carter SE Unit based on a traditional volumetric calculation performed by Devon Energy & Production Company, L.P. in a 2005 Barnett Shale field rules hearing before the Commission in Oil & Gas Docket No. 09-0243843. Devon's study developed a gas in place calculation of 139 BCF per square mile (640 acres) for Tarrant County based on reservoir thickness of 433 feet. Factoring by reservoir thickness of about 350 feet at the location of the Carter SE Unit, Well No. B 2H and the 139.03 acres in the unit, XTO's engineer calculated gas in place beneath the Carter SE Unit of about 24.3 BCF. Using a 30% recovery factor, which XTO's engineer believes is conservative, the current recoverable gas beneath the Unit is about 7.3 BCF. By decline curve, XTO's engineer calculated estimated ultimate recovery for Well No. B 3H on the Carter SE Unit of 1.4 BCF and estimated ultimate recovery for Well No. B 14H of 3.1 BCF. This engineer also estimated that if the no perforation zone is eliminated and Well No. B 2H is perforated as now proposed by XTO, Well No. B 2H ultimately will recover about 3.0 BCF. If Well No. B 2H cannot be perforated in the section of the drainhole currently restricted by the no perforation zone, it will recover 2.3 BCF to 2.6 BCF.

XTO makes the point that Tract No. 121 in which the Jamie Johnston Biedenharn 1990 Trust owns a 50% undivided mineral interest has about 8,770 MCF of recoverable gas, and the Trust has an interest in only 50% of this amount of gas. XTO thus calculates that to protect the Trust's interest in about 4,385 MCF of gas with a no perforation zone of 730 feet would cause 0.4 BCF to 0.7 BCF of gas to go unrecovered by XTO and its lessors.

XTO believes that approval of the requested Rule 37 exception having the effect of removing the no perforation zone from the drilling permit for the Carter SE Unit, Well No. B 2H is necessary to protect correlative rights. XTO contends that there is no feasible regular location for an additional horizontal well on the Carter SE Unit. Well No. B 2H is drilled roughly at a mid-point between the other two horizontal wells on the Unit, Well Nos. B 3H and B 14H. Any regular location for an additional horizontal well on the Unit would need to be drilled 330 feet or more not only from Tract No. 121 in which the Jamie Johnston Biedenharn 1990 Trust owns a 50% undivided mineral interest but also 330 feet from Tract No. 33 which also has a partial undivided mineral interest that is unleased. According to the scale on the plat attached to this proposal for decision as Appendix 1, any such location would be about 70-100 feet from the existing wellbore path of either Well No. B 3H or B 14H and would compete with these wells for basically the same gas reserves.

Jamie Johnston Biedenharn 1990 Trust

The Jamie Johnston Biedenharn 1990 Trust is the owner of a 50% undivided mineral interest in Tract No. 121 within the Carter SE Unit. Well No. B 2H is about 87' from Tract No. 121. The no perforation zone restriction contained in the first amended drilling permit for Well No. B 2H would preclude perforation of the well at any point along the drainhole any closer to the Tract No. 121 than 330 feet. Under current circumstances, the Trust protests XTO's request for a Rule 37 exception that would have the effect of eliminating the no perforation zone. XTO or its

representatives made numerous attempts to lease the Trust's mineral interest in Tract No. 121, but the Trust has consistently declined to lease, preferring to be the owner of a proportionate working interest in the Carter SE Unit. As early as 2005 and on numerous other occasions in subsequent years, Jamie Perkins (now Jamie Widener) and/or the Trust, as successor owner, notified XTO of their desire to participate in the Unit as a working interest owner and to pay their proportionate share of well costs. XTO has not agreed to this proposal.

EXAMINERS' OPINION

An owner of oil and gas is entitled to an opportunity to recover the reserves underlying his tract, and any denial of that opportunity amounts to confiscation. *Atlantic Refining Co. v. Railroad Commission*, 346 S.W.2d 801 (Tex. 1961); *Imperial American Resources Fund, Inc. v. Railroad Commission*, 557 S.W.2d 280 (Tex. 1977). When the subject tract is capable of supporting a regular location, the applicant for a Rule 37 exception based on confiscation must prove that the proposed irregular location is necessary because of surface or subsurface conditions and that the proposed location is reasonable. To do this, the applicant must show that it is not feasible to recover its fair share of hydrocarbons from regular locations.

The examiners are of the opinion that XTO proved that the requested Rule 37 exception is necessary to prevent confiscation. Current recoverable reserves beneath the 139.03 acre Carter SE Unit are about 7.3 BCF of gas. The first two wells drilled on the Unit, Well Nos. B 3H and B 14H ultimately will recover a collective 4.5 BCF. The drilling of a third well plainly is necessary to provide XTO and its lessors with an opportunity to recover their fair share of gas, measured by the current recoverable gas beneath the Unit. Well No. B 2H is a third well on the unit, which has been drilled but not yet completed with perforations. If XTO is restricted against perforating the 730 foot section of the drainhole covered by the no perforation zone restriction in the first amended drilling permit for the well, Well No. B 2H will recover gas in the range of 2.3 BCF to 2.6 BCF. The three wells collectively could be expected to recover 0.3 BCF to 0.5 BCF of gas less than the fair share of XTO and its lessors, measured by the current recoverable gas beneath the unit, even if the recovery factor for wells on the Unit is no more than 30%.

XTO is precluded from drilling an additional vertical well from a surface location anywhere on the Carter SE Unit by surface development and restrictions in its oil and gas leases. Theoretically, there are regular locations on the Unit where an additional horizontal well might be drilled from the off-lease drilling pad, but these are not feasible locations. Any regular location for an additional horizontal well on the Unit would need to be drilled 330 feet or more not only from Tract No. 121 in which the Jamie Johnston Biedenharn 1990 Trust owns a 50% undivided mineral interest but also 330 feet from Tract No. 33 which also has a partial undivided mineral interest that is unleased. According to the scale on the plat attached to this proposal for decision as Appendix 1, any such location would be about 70-100 feet from the existing wellbore path of either Well No. B 3H or B 14H and would compete with these wells for basically the same gas reserves. An additional horizontal well at such a regular location would be in the category of an unnecessary well and would

not provide XTO and its lessors an opportunity to recover their fair share of gas.

The examiners have considered the correlative rights of the Jamie Johnston Biedenharn 1990 Trust associated with the Trust's 50% undivided mineral interest in Tract No. 121 consisting of 0.16 gross acres. Tract No. 121 is pooled into the Carter SE Unit, because XTO has leased the 50% interest in the tract not owned by the Trust. As far as the evidence shows, the only reason the Trust's interest in Tract No. 121 is not pooled is that the Trust has refused XTO's offers to lease based on the Trust's preference that it be allowed to participate in the Unit as a working interest owner rather than a royalty owner. The Trust has a right not to lease its interest, but the decision not to lease has consequences. The Commission has no authority, in a Rule 37 case, to order XTO to allow the Trust to participate in the Unit as a working interest owner.² The Trust's correlative rights associated with its ownership of a partial undivided mineral interest in Tract No. 121 must be weighed against XTO's correlative rights, and those of its lessor, in the same tract. The correlative rights of XTO and its lessors in all other tracts included in the Carter SE Unit must also be balanced against the Trust's interests. Retention of the no perforation zone restriction in the drilling permit for Well No. B 2H might serve to protect the Trust's net interest in about 4,385 MCF of recoverable gas, but at the same time would adversely impact XTO's correlative rights and those of its lessors by depriving the well of the opportunity to recover 0.4 BCF to 0.7 BCF of recoverable gas.

Considering that the off-lease drilling pad is the only surface location available to XTO for the drilling of wells on the Carter SE Unit, the examiners believe that the as-drilled location of the Well No. B 2H is reasonable. The well is drilled at a location that is roughly at the mid-point between two earlier drilled horizontal wells on the Unit, Well No. B 3H and Well No. B 14H. A location 330 feet or more from the two tracts within the Unit having partial unleased interests would place the well less than 70 feet from the wellbore path of either Well No. B 3H or Well No. B 14H, causing the well to compete for gas reserves already capable of being recovered by the pre-existing wells and precluding XTO and its lessors from recovering their fair share of gas.

Based on the record in this case, the examiners recommend adoption of the following Findings of Fact and Conclusions of Law.

² Should the Trust wish to attempt to force pool its unleased interest in Tract No. 121 into a proration unit for Well No. B 2H on the Carter SE Unit as a working interest, the Mineral Interest Pooling Act in Chapter 102 of the Texas Natural Resources Code provides a possible remedy. See Oil & Gas Docket No. 06-0245016; *Application of Patricia C. Nowak for Formation of A Pooled Unit Pursuant to the Mineral Interest Pooling Act, Proposed Waldrop Gas Unit 1-A, Carthage (Cotton Valley) Field, Panola County, Texas* (Final Order served July 7, 2006).

FINDINGS OF FACT

1. At least ten (10) days notice of this hearing was provided to all affected persons as defined by Statewide Rule 37(a)(2) and 37(a)(3) and the special field rules for the Newark, East (Barnett Shale) Field.
2. XTO Energy, Inc. ("XTO") seeks an exception to Statewide Rule 37 for the as-drilled location of the Carter SE Unit, Well No. B 2H, Newark, East (Barnett Shale) Field, Tarrant County, Texas.
3. On November 3, 2009, XTO obtained an original drilling permit to drill the Carter SE Unit, Well No. B 2H at a Rule 37 location on the 139.03 acre pooled unit. This permit was restricted by a no perforation zone and was approved administratively pursuant to Rule 37(h)(2)(A).
4. Well No. B 2H was spud in December 2009, and drilling of the well was completed on January 1, 2010. The well has not yet been completed with perforations and has not produced.
5. On February 25, 2010, XTO obtained a first amended drilling permit for the as-drilled location of Well No. B 2H, subject to the same no perforation zone restriction contained in the original drilling permit. Appendix 1 to this proposal for decision is a copy of a plat which shows the as-drilled wellbore path of Well No. B 2H, the no perforation zone, and the location of two pre-existing horizontal wells on the same pooled unit, Well No. B 3H and Well No. B 14H. Also shown are the locations of two tracts internal to the pooled unit identified by cross-hatching that have partial unleased interests. Appendix 1 is incorporated into this finding by reference.
6. The present application seeks a second amended drilling permit for the as-drilled location of Well No. B 2H on the 139.03 acre Carter SE Unit. The purpose of this application is to eliminate the no perforation zone restriction contained in the first amended permit. Appendix 2 to this proposal for decision is a copy of the plat associated with the present application, showing that XTO proposes to perforate the well in the section of the well from the proposed upper perforation ("B 2H UP") to the proposed lower perforation ("B 2H LP"). Appendix 2 is incorporated into this finding by reference.
7. The surface location of Well No. B 2H is off lease, 2,322 feet from the south line and 1,217 feet from the west line of the Pace, D C Survey, A-1245, Tarrant County, Texas. The penetration point location is 377 feet from the north line and 737 feet from the west line of the Carter SE Unit. The terminus location is 396 feet from the south line and 1,135 feet from the west line of the Carter SE Unit and 387 feet from the south line and 1,221 feet from the east line of the Freeman, T Survey, A-546, Tarrant County, Texas. Because the well actually

traverses one of the tracts in the unit that has a partial unleased interest, the Form W-1 shows that the well is one foot from the nearest lease line.

8. Special field rules for the Newark, East (Barnett Shale) Field provide for 330' lease line spacing. As to horizontal wells, where the horizontal portion of the well is cased and cemented back above the top of the Barnett Shale formation, the distance to any property line, lease line, or subdivision line is calculated based on the distance to the nearest perforation in the well, and not based on the penetration point or terminus. Where an external casing packer is placed in a horizontal well and cement is pumped above the external casing packer to a depth above the top of the Barnett Shale formation, the distance to any property line, lease line, or subdivision line is calculated based on the top of the external casing packer or the closest open hole section in the Barnett Shale. The standard drilling and proration unit for the Newark, East (Barnett Shale) Field is 320 acres. An operator is permitted to form optional drilling units of 20 acres.
9. A Rule 37 exception is needed for Well No. B 2H, as now proposed to be perforated by XTO, because the well's drainhole from the proposed upper perforation to the proposed lower perforation is closer than allowed by the lease line spacing rule to two tracts internal to the Carter SE Unit, Tract Nos. 33 and 121, having partial undivided mineral interests that are unleased.
10. The application is protested by the Jamie Johnston Biedenharn 1990 Trust, which is the owner of a 50% undivided mineral interest in Tract No. 121, a 0.16 acre tract internal to the Carter SE Unit. Protestant's tract is 87 feet from the section of Well No. B 2H now proposed to be perforated by XTO. XTO is the lessee of the other 50% undivided mineral interest in Tract No. 121.
11. XTO has leased 100% of the mineral interest in all tracts included in the 139.03 acre Carter SE Unit, with the exception of Tract Nos. 33 and 121 where XTO has leased 50% of the mineral interest.
12. XTO made several attempts to lease the 50% undivided mineral interest in Tract No. 121 owned by the Jamie Johnston Biedenharn 1990 Trust, but was unsuccessful. XTO is still willing to lease this interest, but the Trust and the predecessor record owner of Tract No. 121 have stated their preference to participate in the Unit as working interest owners by paying their proportionate share of well costs. XTO has not agreed to this form of participation.
13. The surface of the acreage included in the Carter SE Unit is heavily developed with residential structures. Wells on the Unit are drilled from an off-lease pad site (XTO's "B" pad) which is the surface location for wells drilled on the Carter SE Unit, the Carter NE Unit, and the Carter "A" Lease. XTO's "B" pad is located to the northwest of the Carter SE Unit. The XTO "B" pad is the only surface location available to XTO for wells drilled on the

Carter SE Unit. XTO is not able to drill a vertical well from a surface location on the acreage included in the Unit because of surface constraints and a prohibition in its oil and gas leases.

14. Well No. B 2H is the third horizontal well drilled on the Carter SE Unit in the Newark, East (Barnett Shale) Field. The first well to be drilled on this Unit was Well No. B 3H which was completed on February 2, 2009. The second well drilled on the Unit was Well No. B 14H which was completed on May 9, 2009. Well No. B 2H has been drilled between Well No. B 3H and Well No. B 14H. The relative locations of these three wells are shown on Appendix 1 to this proposal for decision.
15. The Barnett Shale formation is present and productive under the entirety of the Carter SE Unit. The formation is about 300-350 feet thick in the area of the Unit.
16. Based on a plot of estimated ultimate recoveries versus drainhole length for all 338 Barnett Shale gas wells within a five mile radius of the terminus of the Carter SE Unit, Well No. B 2H, Well No. B 2H ultimately will recover an estimated 604 MCF of gas per foot of horizontal drainhole.
17. Based on a plot of estimated ultimate recoveries versus drainhole length for just those 56 Barnett Shale gas wells within a five mile radius of the terminus of the Carter SE Unit, Well No. B 2H with a more reliable four years or more of production history, Well No. B 2H ultimately will recover an estimated 990 MCF of gas per foot of horizontal drainhole.
18. The length of the no perforation zone contained in the first amended drilling permit for the Carter SE Unit, Well No. B 2H is 730 feet. Based on the regional recovery of 604 MCF per foot of horizontal drainhole developed from the plot of estimated ultimate recovery versus drainhole length using all Barnett Shale gas wells within a five mile radius, eliminating the no perforation zone from the drilling permit for Well No. B 2H would enable the well to recover an additional 441 MMCF, or about 0.4 BCF, of gas, as compared to what the well would recover if restricted by the no perforation zone.
19. Based on the regional recovery of 990 MCF per foot of horizontal drainhole developed from the plot of estimated ultimate recovery versus drainhole length using just those Barnett Shale gas well within the five mile radius which have four or more years of production history, eliminating the no perforation zone from the drilling permit for Well No. B 2H would enable the well to recover an additional 723 MMCF, or about 0.7 BCF.
20. Tract No. 121 in the Carter SE Unit, in which the Jamie Johnston Biedenbarn 1990 Trust owns a 50% undivided mineral interest, has about 8,770 MCF of recoverable gas, and the Trust has an interest in 50% of this amount of gas.

21. Gas in place beneath the Carter SE Unit in the subject field is about 24.3 BCF. Based on a 30% recovery factor, the current recoverable gas beneath the Unit is about 7.3 BCF. Estimated ultimate recovery for Well No. B 3H on the Carter SE Unit is 1.4 BCF and estimated ultimate recovery for Well No. B 14H is 3.1 BCF. If the no perforation zone is eliminated and Well No. B 2H is perforated as now proposed by XTO, the well ultimately will recover about 3.0 BCF. If Well No. B 2H cannot be perforated in the section of the drainhole currently restricted by the no perforation zone, it will recover 2.3 BCF to 2.6 BCF.
22. Elimination of the no perforation zone restriction on the drilling permit for the Carter SE Unit, Well No. 2H is necessary to provide XTO and its lessors with an opportunity to recover their fair share of gas from the subject reservoir, measured by the current recoverable gas beneath the Unit. With the no perforation zone restriction on Well No. B 2H, the three horizontal wells on the Carter SE Unit collectively would have ultimate recovery of 0.3 BCF to 0.5 BCF of gas less than the fair share measured by the current recoverable gas in the field beneath the Unit.
23. There are no remaining regular locations on the Carter SE Unit where it is feasible to drill an additional horizontal well that would provide XTO and its lessors with an opportunity to recover their fair share of gas from the subject reservoir.
 - a. Any regular location for an additional horizontal well on the Unit would need to be drilled 330 feet or more not only from Tract No. 121 in which the Jamie Johnston Biedenharn 1990 Trust owns a 50% undivided mineral interest but also 330 feet from Tract No. 33 which also has a partial undivided mineral interest that is unleased.
 - b. An additional horizontal well at a location 330 feet or more from the two tracts within the Unit having partial unleased interests would place the well 70-100 feet from the wellbore path of either Well No. B 3H or Well No. B 14H, causing the well to compete for gas reserves already capable of being recovered by the pre-existing wells.
24. The as-drilled location of the Carter SE Unit, Well No. B 2H, as now proposed to be perforated by XTO, is reasonable.
 - a. The location of the well is a reasonable accommodation of the need to drill from the only available off-lease surface location and the locations of pre-existing horizontal wells on the Unit.
 - b. The well is drilled at a location that is roughly at the mid-point between Well Nos. B 3H and B 14H on the unit so that the well will not interfere or compete for reserves with the pre-existing wells on the Unit.

- c. Perforation of Well No. B 2H as now proposed by XTO is necessary to provide XTO and its lessors with an opportunity to recover their fair share of gas from the subject reservoir.

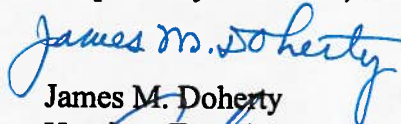
CONCLUSIONS OF LAW

1. Proper notice of hearing was timely issued by the Railroad Commission to appropriate persons legally entitled to notice.
2. All things necessary to the Commission attaining jurisdiction over the subject matter and the parties in this hearing have been performed.
3. Approval of a Rule 37 exception for the as-drilled location of the Carter SE Unit, Well No. B 2H, as proposed to be perforated by XTO Energy, Inc., is necessary to prevent confiscation and protect the correlative rights of mineral owners.

RECOMMENDATION

The examiners recommend that the application of XTO Energy, Inc., for a Rule 37 exception for the as-drilled location of the Carter SE Unit, Well No. B 2H in the Newark, East (Barnett Shale) Field, Tarrant County, Texas, be granted as necessary to prevent confiscation and protect correlative rights.

Respectfully submitted,



James M. Doherty
Hearings Examiner



Andres J. Trevino
Technical Examiner